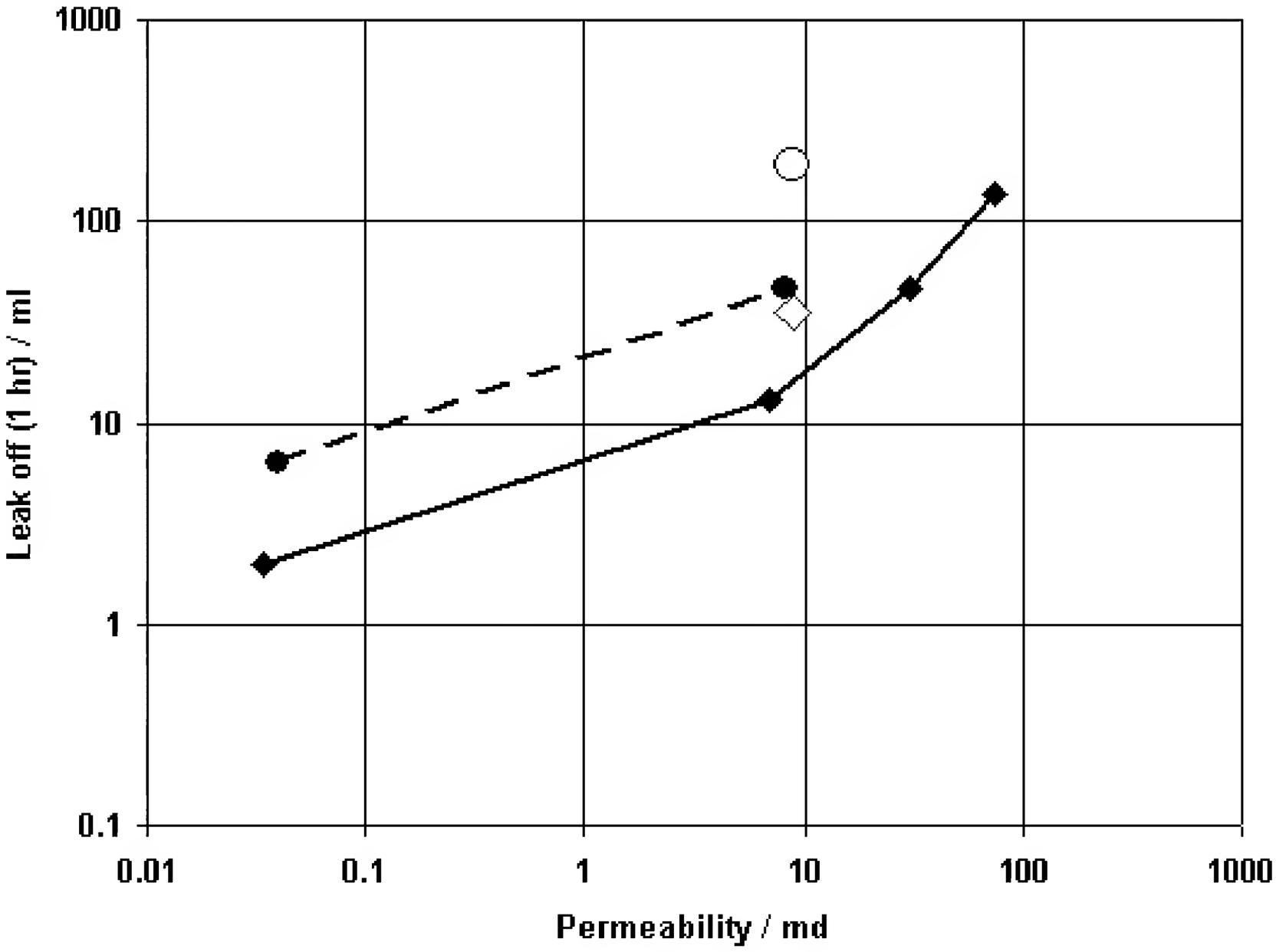

Figure 1 (*prior art*)

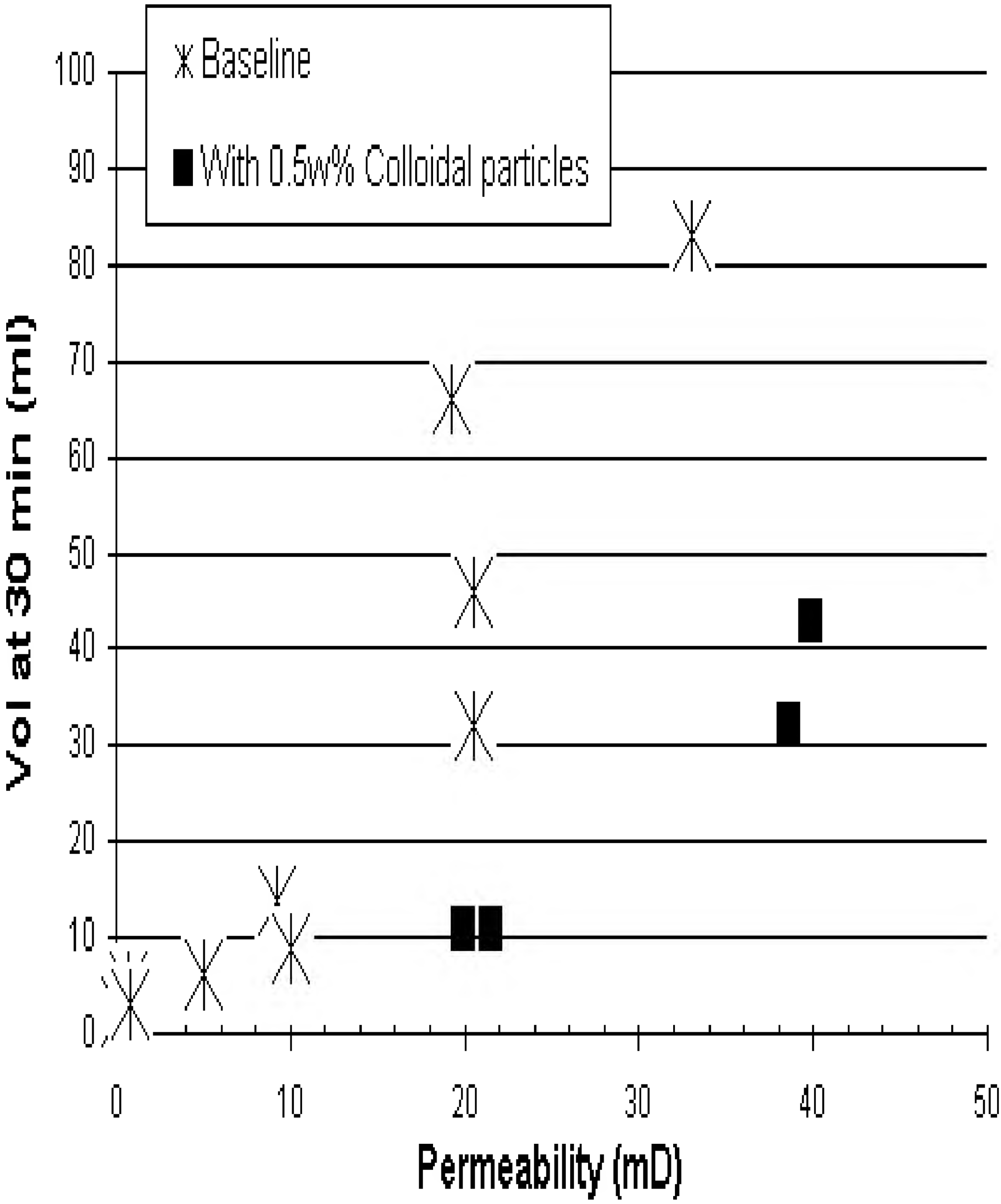
Baseline
With 0.5w% Colloidal particles
Vol at 30 min (ml)
100
90
80
70
60
50
40
30
20
10
0
0
10
20
30
40
50
Permeability (mD)

Figure 2

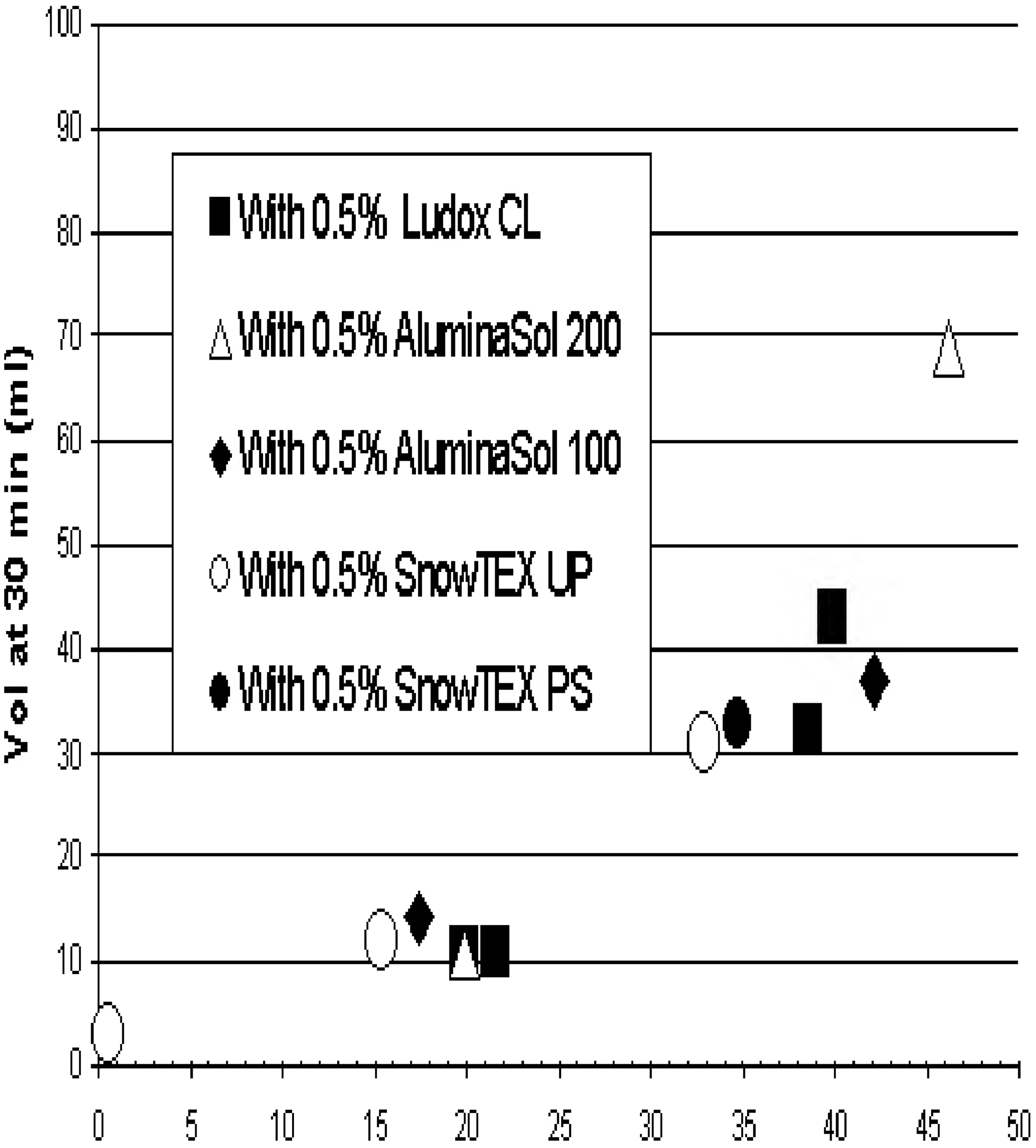
100
90
80
70
60
50
40
30
20
10
0
Vol at 30 min (ml)
With 0.5% Ludox CL
With 0.5% AluminaSol 200
With 0.5% AluminaSol 100
With 0.5% SnowTEX UP
With 0.5% SnowTEX PS
0
5
10
15
20
25
30
35
40
45
50
Permeability (mD)

Figure 3

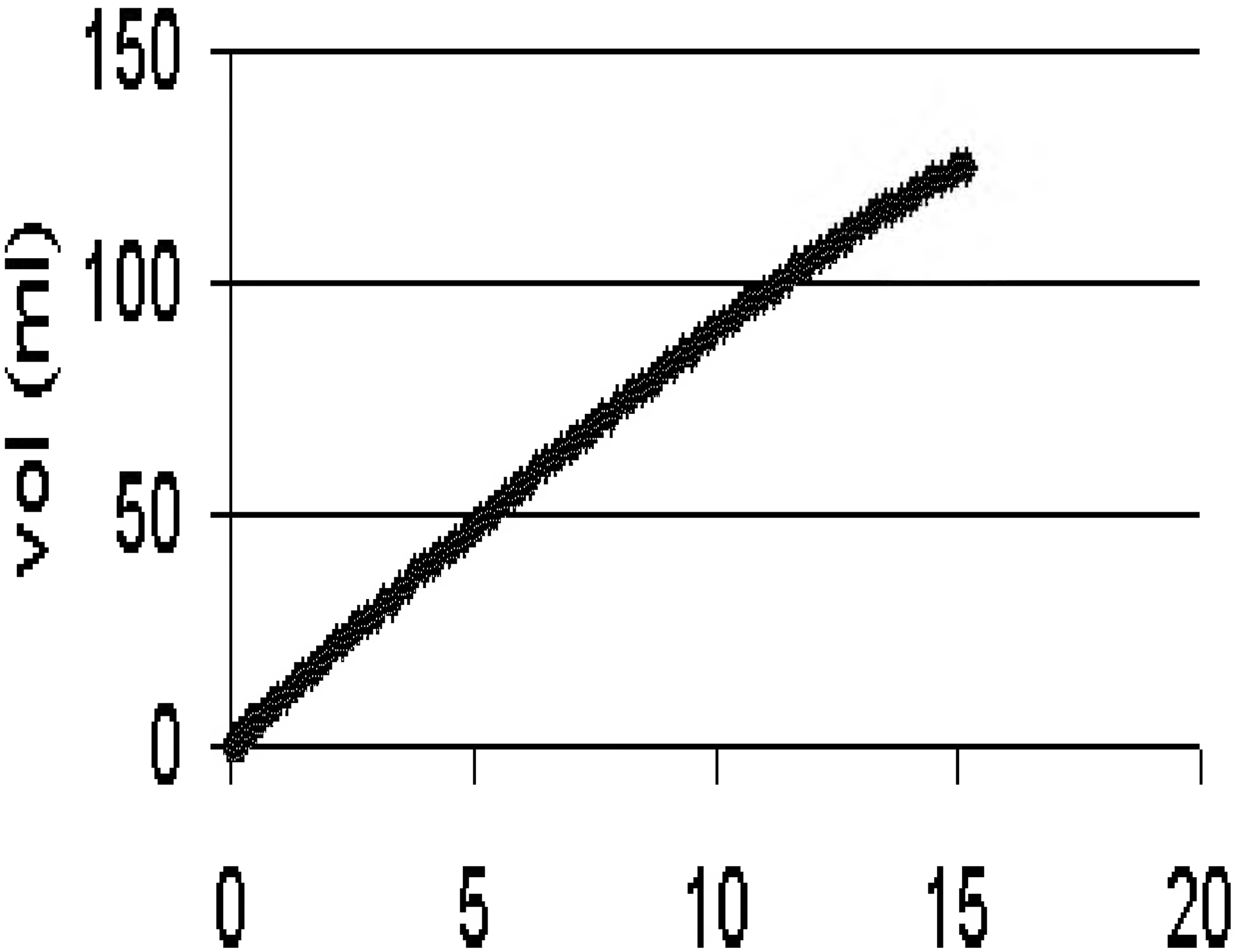

Figure 4

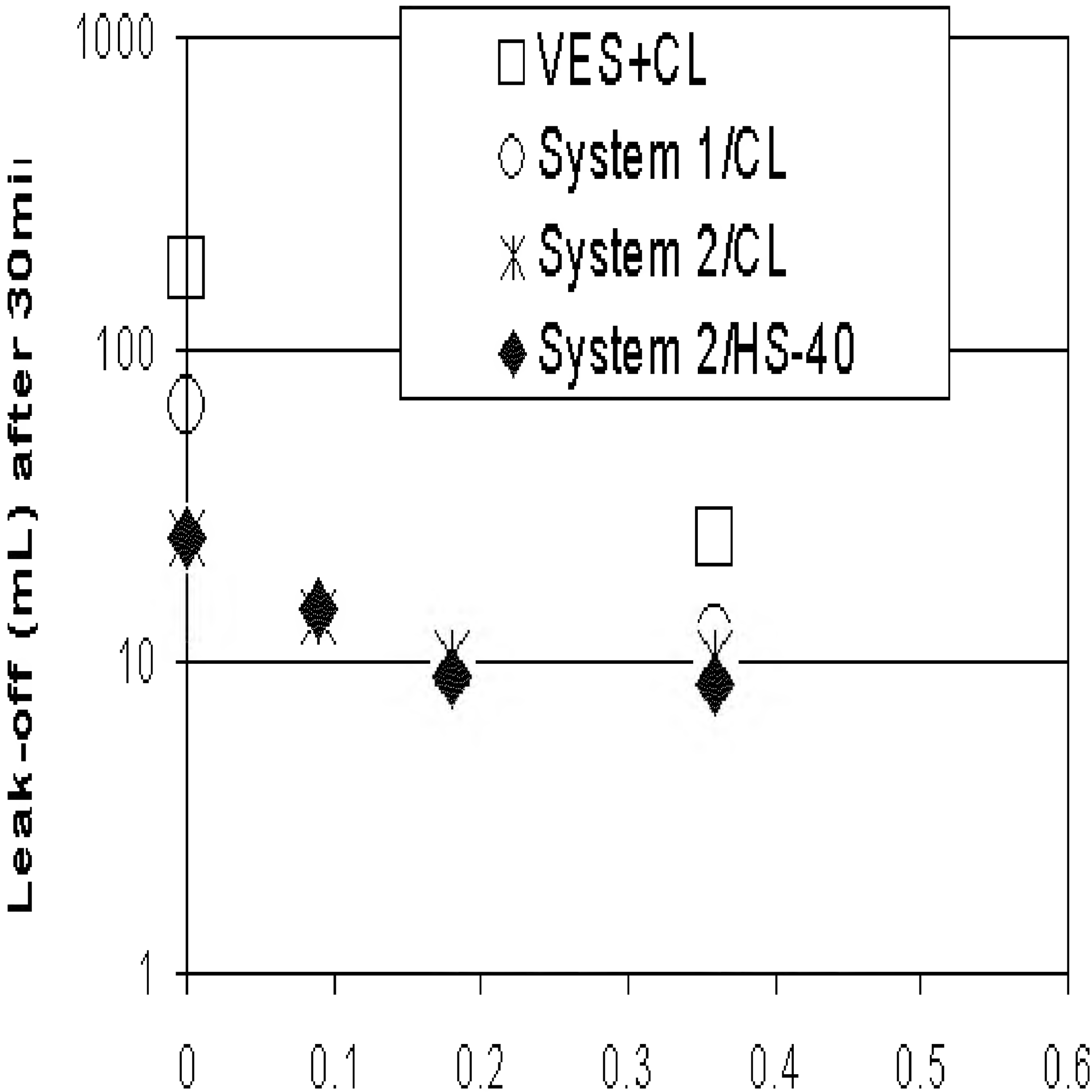
VES+CL
System 1/CL
System 2/CL
System 2/HS-40
1000
100
10
1
Leak-off (mL) after 30min
0
0.1
0.2
0.3
0.4
0.5
0.6
wt% FL additive

Figure 5

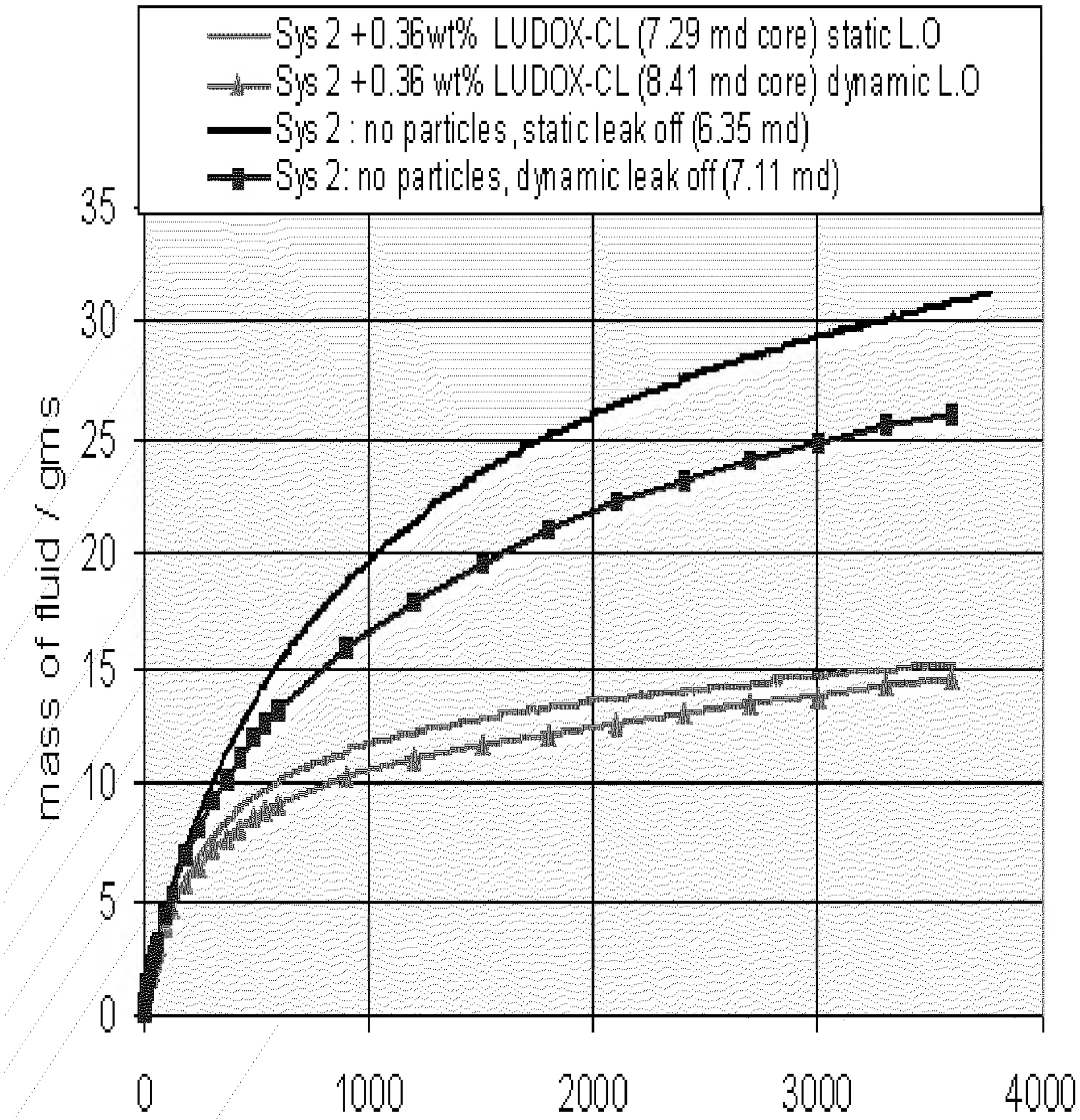
Sys 2 +0.36wt% LUDOX-CL (7.29 md core) static L.O
Sys 2 +0.36 wt% LUDOX-CL (8.41 md core) dynamic L.O
Sys 2 : no particles, static leak off (6.35 md)
Sys 2: no particles, dynamic leak off (7.11 md)
mass of fluid / gms
0
5
10
15
20
25
30
35
0
1000
2000
3000
4000
Time / seconds

Figure 6

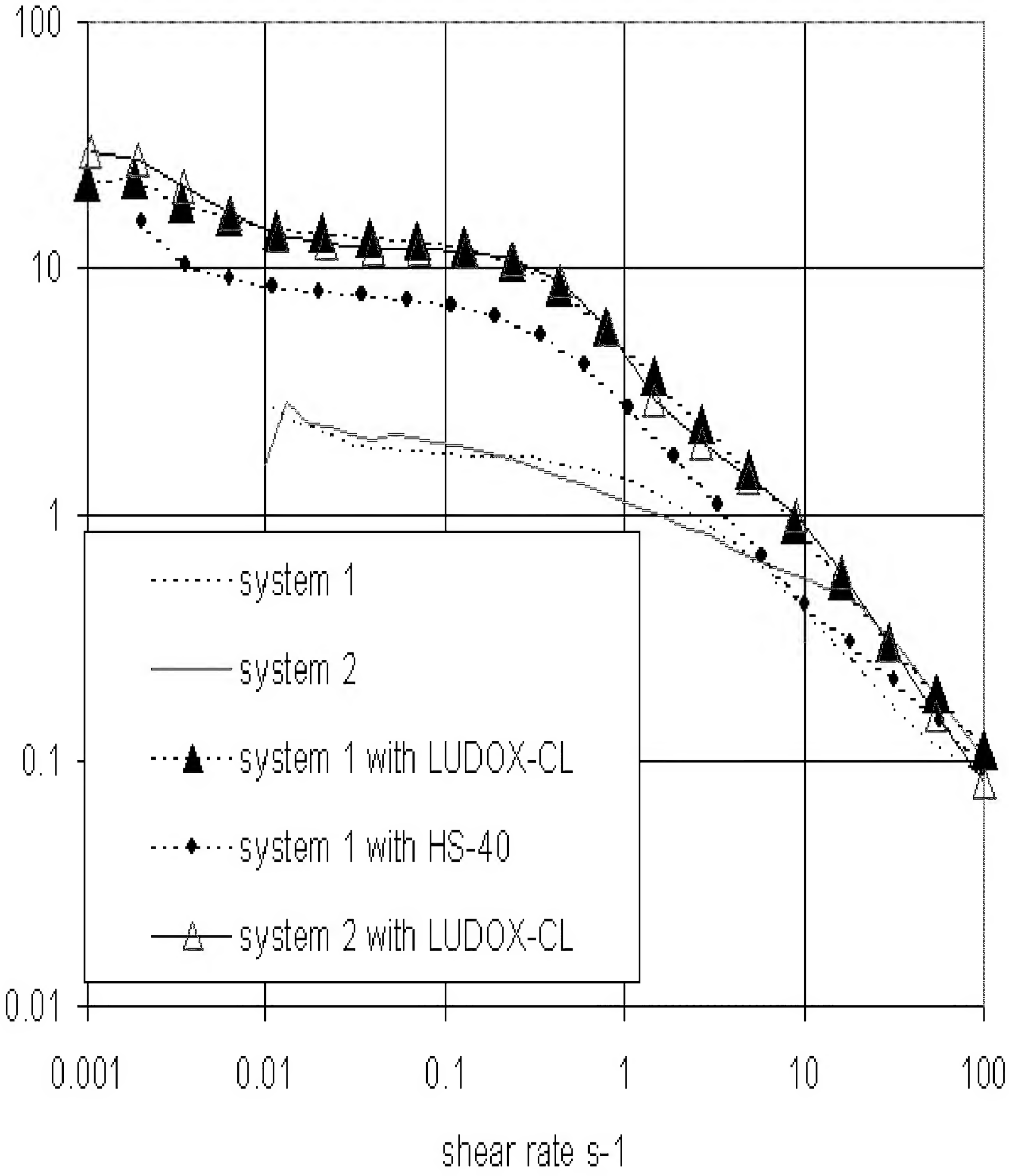
100
10
1
0.1
0.01
viscosity Pas
system 1
system 2
system 1 with LUDOX-CL
system 1 with HS-40
system 2 with LUDOX-CL
0.001
0.01
0.1
1
10
100
shear rate s-1

Figure 7